NATIONAL SYNCHROTRON LIGHT SOURCE
SAD RISK ASSESSMENT

APPENDIX 4

SYSTEM: Building 725 activities

SUBSYSTEM: Personnel safety

HAZARD: Cryogenic and Oxygen Deficiency

HAZARD IMPACT:

Release of significant quantities of cryogen in specific locations could result in injury or loss of life to personnel.

RISK ASSESSMENT PRIOR TO MITIGATION:

Consequence	☐ **I** High	☒ **II** Moderate	☐ **III** Low	☐ **IV** Routine
Probability	☐ **A** Frequent		☐ **D** Remote	
	☐ **B** Probable		☐ **E** Extremely Remote	
	☒ **C** Occasional		☐ **F** Impossible	
Risk Category	☐ **I** High	☒ **II** Moderate	☐ **III** Low	☐ **IV** Routine

MITIGATING FACTORS

- **Locations susceptible to ODH have been identified and engineering controls such as oxygen sensors, alarms, interlocks and exhaust systems have been installed where appropriate. Maintenance programs are in place.
- NSLS Facility Specific Safety Training
- Compressed Gas Safety Training
- Cryogen Safety Awareness
- Oxygen Deficiency Hazard Training
- ESH Standard 1.4.0 Compressed Gas Cylinder Safety
- ESH Standard 5.1.0 Non-Flammable Cryogenic Liquids
- ESH Standard 5.2.0 Flammable Cryogenic Liquids
- The ODH System Classification and Controls Subject Area
- Reviews by the BNL Cryogenic Safety Committee

RISK ASSESSMENT FOLLOWING MITIGATION:

Consequence	☐ **I** High	☒ **II** Moderate	☐ **III** Low	☐ **IV** Routine
Probability	☐ **A** Frequent		☒ **D** Remote	
	☐ **B** Probable		☐ **E** Extremely Remote	
	☐ **C** Occasional		☐ **F** Impossible	
Risk Category	☐ **I** High	☐ **II** Moderate	☒ **III** Low	☐ **IV** Routine